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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/054,860	01/25/2002	Sebastien Bigo	Q68100	8578

7590 12/28/2004
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EXAMINER

LE, TRAN Q

ART UNIT	PAPER NUMBER
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2633

DATE MAILED: 12/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/054,860	Applicant(s) BIGO ET AL.	
	Examiner Tran Q. Le	Art Unit 2633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☒ Claim(s) 4,5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on _____ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>25/01/2002</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: missing header for the section about detailed description of the invention.

Appropriate correction is required.

Drawings

2. The drawings are objected to because the structural elements in figures 3 and 4 are merely labeled with identifying numbers. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency.

Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be

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notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

3. Claim 2 is objected to because of the following informalities: the limitation "modulation scheme according to claim (1.), characterized in that the central frequencies of two consecutive filters (whether left-side or right-side) are equidistant in the frequency domain" should be changed to -- modulation scheme according to claim 1, characterized in that the central frequencies of two consecutive filters, whether left-side or right-side, are equidistant in the frequency domain--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

5. Claims 1-3 are rejected under 35 U.S.C. 102(a) as being anticipated by Bigo et al, "5.12 Tbit/s (128x40 Gbit/s WDM) transmission over 3x100 km of TeraLight Fibre", herein after referred to as "Bigo".

Regarding claim 1, Bigo discloses a modulation scheme for a NRZ signal transmitted via a DWDM transmission line with alternating left side and right side

filtering for adjacent channels at the receiver (fig. 1 and col. 1, par. 3), having channels with alternating channel spacing of A and B (col. 1, par. 3), having channels for right side filtering (fig. 1) being modulated by a modulator with positive chirp (fig. 1, 2 and col. 2, par. 1, odd and even channels are modulated independently by two different Mach-Zehnder modulators, therefore providing a positive and negative chirp), having channels for left side filtering (fig. 1) being modulated by a modulator with a negative chirp (fig. 1, 2 and col. 2, par. 1, odd and even channels are modulated independently by two different Mach-Zehnder modulators, therefore providing a positive and negative chirp).

Regarding claim 2, Bigo discloses that the central frequencies of two consecutive filters, whether left-side or right-side, are equidistant in the frequency domain (col. 2, par. 1, lines 1-6).

Regarding claim 3, Bigo discloses a transmission system with a transmitter function (fig. 2 and col. 2, par. 1), a transmitting fiber and a receiver function (fig. 2 and col. 3, par. 4 and col. 4, par. 2): the transmitter function comprising light sources (1-128, fig. 2), modulators (M-Z, fig. 2) and a multiplexer (1st CL, fig. 2), the receiver comprising at least a demultiplexer (2nd CL, fig. 2), filters (fig. 2) and receivers (Rx, fig. 2), modulating the channels for left side filtering with modulators with a negative chirp (fig. 1, 2 and col. 2, par. 1, odd and even channels are modulated independently by two different Mach-Zehnder modulators, therefore providing a positive and negative chirp) and for right side filtering with modulator with positive chirp (fig. 1, 2 and col. 2, par. 1, odd and even channels are modulated independently by two different Mach-Zehnder

modulators, therefore providing a positive and negative chirp).

Allowable Subject Matter

6. Claims 4 and 5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is an examiner's statement of reasons for allowance:

With respect to claims 4 and 5, the prior art of Bigo fails to teach the transmission system according to claim 2 comprising at the receiver function a first demultiplexer (5) for demultiplexing the channels to be filtered left side from the channels to be filtered right side, connecting the channels to be filtered by left-side filtering with a compensating fiber piece of positive chromatic dispersion (8), connecting the channels to be filtered by right-side filtering with a compensating fiber piece of negative chromatic dispersion and a second demultiplexer (9) for demultiplexing all channels.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Marcuse et al. (US Patent No. 5,608,561) is cited to show a method and system for reducing chirp in an optical communication system using the Mach-Zehnder modulator.

Blauvelt et al. (US Patent No. 5,430,569) is cited to show a method of suppression of noise and distortion in fiber-optic communication system by modulating the optical frequency of (chirping) a laser light source with the use of a chirp signal generator coupled to the signal path.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tran Q. Le whose telephone number is (571)272-2046. The examiner can normally be reached on 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571)272-3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TQL


M. R. SEDIGHIAN
PRIMARY EXAMINER